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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,392	01/09/2004	Robert Glenn Biskeborn	SJ0920030016US1	7827
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WALTER W. DUFT LAW OFFICES OF WALTER W. DUFT 8616 MAIN ST SUITE 2 WILLIAMSVILLE, NY 14221			EXAMINER NEGRON, DANIEL L	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 12/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/754,392

Applicant(s)

BISKEBORN, ROBERT GLENN

Examiner

Daniell L. Negrón

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 8,9,18,19,29,30,39 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,10-17,20-28 and 31-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on January 9, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Election/Restrictions

2. Claims 8, 9, 18, 19, 29, 30, 39, and 40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 16, 2007.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 11, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith U.S. Patent Application Publication No. 2002/0197936.

Regarding claim 1, Smith discloses a method for monitoring fly height between a magnetic recording medium and a transducing head comprising calculating a magnetic spacing change value relative to the recording medium and the transducer head (paragraph 26), and

adjusting the magnetic spacing change value as necessary to reflect transducing head wear (paragraph 27).

Regarding claims 11 and 20, apparatus claims 11 and 20 are drawn to the apparatus corresponding to the method of using same as claimed in claim 1. Therefore apparatus claims 11 and 20 correspond to method claim 1, and are rejected for the same reasons of anticipation as used above.

5. Claims 21, 22, 31, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Dakroub et al U.S. Patent No. 7,113,354.

Regarding claim 21, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising sensing media noise on the recording medium and calculating a magnetic spacing change value from the media noise (column 5, lines 4-18).

Regarding claim 22, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head wherein the media noise (i.e., readback signal from a nonrecorded region of the medium) is generated by forming a substantially random pattern of magnetic domains on the recording medium using one of an A.C. erasure technique, a D.C. erasure technique, or a bulk erasure technique (column 5, lines 4-9). It is considered inherent that media noise is generated from one of an A.C. erasure technique, a D.C. erasure technique, or a bulk erasure technique since a nonrecorded region of a conventional magnetic disk is subject to such techniques during manufacture.

Regarding claims 31 and 32, apparatus claims 31 and 32 are drawn to the apparatus corresponding to the method of using same as claimed in claims 21 and 22. Therefore apparatus

claims 31 and 32 correspond to method claims 21 and 22, and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 4-7, 12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith U.S. Patent Application Publication No. 2002/0197936 in view of Dakroub et al U.S. Patent No. 7,113,354.

Regarding claim 2, Smith discloses a method for monitoring fly height between a magnetic recording medium and a transducing head (paragraph 26), comprising all the limitations of claim 1 as discussed above, but fails to explicitly disclose wherein the magnetic spacing change value is calculated from media noise sensed on the recording medium.

Dakroub et al however, disclose a method for monitoring fly height between a magnetic recording medium and a transducing head wherein media noise (i.e., readback signal on a nonrecorded region of the medium) is detected for the purpose of achieving the ability to identify, remove, and replace marginal components from a storage device prior to shipment (column 2, lines 11-17).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the method of sensing media noise on a magnetic

recording medium into the method of detecting fly height of Smith in order to efficiently identify, remove, and replace marginal components from a storage device prior to shipment.

Regarding claims 4-6, Smith as modified by Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising all the limitations of claim 2 as discussed above, but fail to show the details of the steps for measuring spacing change and detection of media noise. However, it is considered that using a Fast Fourier Transform conversion process for obtaining a signal frequency, using a spectrum analyzing process, and analyzing frequency components of a signal are well known techniques used for detecting spacing change. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made since one with ordinary skill could have pursued the known options of using said well known techniques for detecting a spacing change with reasonable expectation of success.

Regarding claim 7, Smith discloses a method for monitoring fly height between a magnetic recording medium and a transducing head (paragraph 26), comprising all the limitations of claim 1 as discussed above, but fails to explicitly disclose wherein transducing head wear is determined by measuring transducing head signal amplitude after accounting for changes in amplitude due to conditions other than transducing head wear.

Dakroub et al however, disclose a method for monitoring fly height between a magnetic recording medium and a transducing head wherein a head signal amplitude is determined taking into account the changes that occur to a readback signal amplitude when a transducing head approaches a recording medium surface, for the purpose of achieving the ability to identify,

remove, and replace marginal components from a storage device prior to shipment (column 5, lines 10-18).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the method of sensing media noise on a magnetic recording medium into the method of detecting fly height of Smith in order to efficiently identify, remove, and replace marginal components from a storage device prior to shipment.

Regarding claims 12 and 14-17, apparatus claims 12 and 14-17 are drawn to the apparatus corresponding to the method of using same as claimed in claims 2 and 4-7. Therefore apparatus claims 12 and 14-17 correspond to method claims 2 and 4-7, and are rejected for the same reasons of obviousness as used above.

8. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith U.S. Patent Application Publication No. 2002/0197936 in view of Dakroub et al U.S. Patent No. 7,113,354 and further in view of Abraham et al U.S. Patent No. 6,239,936.

Regarding claim 3, Smith as modified by Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising all the limitations of claim 2 as discussed above, but fail to explicitly show wherein the media noise is processed so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

Abraham et al however, disclose a method for monitoring fly height comprising filtering electronic noise from a spacing signal for the purpose of obtaining an improved spacing signal (column 10, lines 35-42). Therefore it would have been obvious to one having ordinary skill in

the art at the time the invention was made to combine the method for monitoring fly height disclosed by Smith as modified by Dakroub et al with the teachings of filtering electronic noise from a spacing signal of Abraham et al in order to obtain a noise-free, improved spacing signal.

Regarding claim 13, apparatus claim 13 is drawn to the apparatus corresponding to the method of using same as claimed in claim 3. Therefore apparatus claims 13 corresponds to method claim 3, and is rejected for the same reasons of obviousness as used above:

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith U.S. Patent Application Publication No. 2002/0197936 in view of Muranushi et al U.S. Patent No. 5,153,785.

Regarding claim 10, Smith disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising all the limitations of claim 1 as discussed above, but fail to explicitly disclose wherein the magnetic recording medium is a magnetic tape and the transducing head is a tape head.

Smith discloses a magnetic recording medium and a transducer head configured for use in a magnetic disk drive. However, Muranushi et al disclose a method for monitoring fly height which is compatible with both a magnetic disk drive and a magnetic tape drive. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of monitoring fly height disclosed by Smith with the teachings of configuring such a method for use in a magnetic tape drive as shown by Muranushi et al since one with ordinary skill could have pursued the known options of using the method disclosed by Smith in a magnetic tape drive with reasonable expectation of success.

10. Claims 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dakroub et al U.S. Patent No. 7,113,354 in view of Abraham et al U.S. Patent No. 6,239,936.

Regarding claim 23, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head, but fail to explicitly show wherein the media noise is processed so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

Abraham et al however, disclose a method for monitoring fly height comprising filtering electronic noise from a spacing signal for the purpose of obtaining an improved spacing signal (column 10, lines 35-42). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method for monitoring fly height disclosed by Dakroub et al with the teachings of filtering electronic noise from a spacing signal of Abraham et al in order to obtain a noise-free, improved spacing signal.

11. Claims 24-26 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dakroub et al U.S. Patent No. 7,113,354.

Regarding claims 24-26, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising all the limitations of claim 21 as discussed above, but fail to show the details of the steps for measuring spacing change and detection of media noise. However, it is considered that using a Fast Fourier Transform conversion process for obtaining a signal frequency, using a spectrum analyzing process, and analyzing frequency components of a signal are well known techniques used for detecting spacing change. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made since one with ordinary skill could have pursued the

known options of using said well known techniques for detecting a spacing change with reasonable expectation of success.

Regarding claims 34-36, apparatus claims 34-36 are drawn to the apparatus corresponding to the method of using same as claimed in claims 24-26. Therefore apparatus claims 34-36 correspond to method claims 24-26, and are rejected for the same reasons of obviousness as used above.

12. Claims 27, 28, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dakroub et al U.S. Patent No. 7,113,354 in view of Smith U.S. Patent Application Publication No. 2002/0197936.

Regarding claim 27, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising all the limitations of claim 21 as discussed above, but fail to explicitly disclose the method further including adjusting magnetic spacing change as necessary to reflect transducing head wear.

Smith however, discloses a method comprising adjusting magnetic spacing between a magnetic recording medium and a transducing head for the purpose of burnishing a head (paragraph 24). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method disclosed by Dakroub et al with the teachings of burnishing a transducer head as shown by Smith in order to minimize fly height while increasing data density.

Regarding claim 28, Dakroub et al as modified by Smith disclose a method wherein transducing head wear is determined by measuring transducing head signal amplitude after

accounting for changes in amplitude due to conditions other than head wear (Smith, paragraph 26).

Regarding claims 37 and 38, apparatus claims 37 and 38 are drawn to the apparatus corresponding to the method of using same as claimed in claims 27 and 28. Therefore apparatus claims 37 and 38 correspond to method claims 27 and 28, and are rejected for the same reasons of obviousness as used above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/DLN/
Daniell L. Negrón
Examiner, Art Unit 2627
December 18, 2007

/William Korzuch/
SPE, Art Unit 2627